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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,944	05/25/2001	John Slegers	440436	1080

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EXAMINER

FORTUNA, ANA M

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 02/13/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/787,944

Applicant(s)

Slegers

Examiner
Ana Fortuna

Art Unit
1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 17, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-36 is/are pending in the application.
- 4a) Of the above, claim(s) 24-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s).
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7, 11 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 112

1. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is unclear as to what is intended, the claim is incomplete, since filtration means are not included as part of the system. The term "flowpath" is unclear as to whether "a conduit" or "pipe" is intended. The term flowpath does not provide structure to the apparatus or system. The apparatus structure and the relation between the elements in the system is indefinite.
2. Claims 1, 9, 15 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the filter (s).
3. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the conduits of pipes, connection to a feed line , to the filter(s), and circulation conduits which should define the fluid flow path through the filter (s), the relationship between the feed, the permeate and /or concentrate an the flow paths or conduits defining the paths and the manifolds.

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4. ***Claim Rejections - 35 U.S.C. § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 9, 10, 12-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann (5,693,229)(hereinafter '229). Reference '229 discloses a filtration system provided with crossflow membranes, e.g. tubular membranes (Fig. 2, elements 1, 2, abstract, column 3, lines 60-68). The system also includes a reservoir (element 5, Fig. 2), as claimed in claim 9. The system is also structured to perform concentration by recirculating retentate two different flow paths, e.g. by recirculating back to the vessel or container, or by isolating the vessel and passing the retentate back to the filters directly to a feed pump and to a feed conduit, as shown in figures 2 and 5 of reference '229. Means for controlling the recirculation operation are also provided, e.g. a control system including a control valve (11). The volumes of fluid in the first recirculation path and second recirculation path are not disclosed I reference '229, however, the volume circulating in a flow path does not constitute an structure of the apparatus. and will depend on process conditions. It would have been obvious to one skilled in the art at the time the invention was made to design the conduits in the apparatus of '229 for handling different feed and or retentate volumes though the conduits connected to the filters and recirculation circuit. As to claims 3-4, conduits associated with both recirculation modes, back to the membranes are

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provided in the system of reference '229 (conduits 3, 4', 4'', and container 5; or conduits 3', pump 8, and conduit 4', Fig. 5). As to claim 5, plurality of filters are disclosed in reference '229 (elements 1, 2), the system is also adapted to exclude some of the filters or one of the membrane filter from a particular flow path (Fig. 5), where only filter 1 is operating when the vessel is excluded from the flow path or retentate circuit. Regarding claim 6, tangential filtration or parallel flow with respect to the membrane surface is inherently disclosed or expected from the use of tubular membranes, as suggested in '229. As to claim 7, manifolds connected to the system for feeding the membranes and collecting permeate and retentate are disclosed and illustrated in the figures, e.g. Fig. 2) in reference '229. As to claims 8 and 11, bypassing part of the manifolds, e.g. feed conduits manifolds is suggested in reference '229, e.g. by suggesting recirculation of the concentrate directly to a first pump (pump 8, Fig. 5), such that the second pump 8') feeding the second module , 2, is eliminated in the feed manifold. The limitations of claims 10 and 12 has been discussed above with respect to claims 1-9.

Regarding claim 13, reference '229 discloses the system arrangement to operate with one membrane ,or multiple membranes (Figures 2 and Fig. 4). In fig. 4 is clearly illustrated the elimination of the second pump 8'. It would have been obvious to one skilled in the art to provide valve means conventional in the art, for restricting the feed flow to pump 8' (fig. 2), for isolating the pump , conduit 4', and filter 2, as suggested in fig. 4. As to claims 14-15, the manifolds and bypassing of pumps in the two flow passes when operating in a particular recirculation mode, e.g. through the vessel or through the pump, have been discussed above as disclosed in reference

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'229 have been discussed above. Regarding claims 16-18, the pumps in reference '229 are adapted for handling different volumes of fluid, which can be controlled by controlling the pump motors, therefore, it would have been obvious to one skilled in the art at the time the invention was made to adapt the system with pumps capable of handling different volumes of fluid, or alternatively use a variable feed pump, as suggested in reference '229 (column 4, lines 31-43). Claims 19-22 repeat the limitations of claims 1, 5, 13, and 10 respectively, which are discussed above.

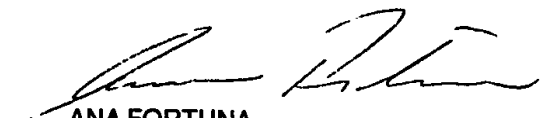
7. References 5,112,489 is cited as teaching concentration with membrane in two different flow paths and using plurality of membranes. References 6,019,902, and 6,495,046 B1 cited as showing the state of the art in operating membranes in concentration circuit or path.

8 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular responses, and (703)872-9311 for after finals.

Ana Fortuna

February 07, 2003


ANA FORTUNA
PRIMARY EXAMINER